

NOTA CIENTÍFICA

Beetles (Coleoptera) of Peru: A Survey of the Families. Pythidae Solier, 1834

Escarabajos (Coleoptera) de Peru: Un muestreo de las familias. Pythidae Solier, 1834

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E-mail: darren.pollock@enmu.edu**Abstract**

The diversity of the family Pythidae (Coleoptera) is summarized for Peru. One genus (*Ischyomius* Chevrolat) and two species are recorded. Comments are given on classification and distribution of the family, as well as known biology and natural history, the latter based primarily on larval stages. Based on label data from previously examined specimens and from newly collected material, species of *Ischyomius* appear to be closely associated with several monocot plant families within order Zingerberales. *Ischyomius singularis* Chevrolat is recorded from Huánuco and Lima, while *I. bicolor* Champion is known from Loreto and Madre de Dios; specific collection localities are given.

Keywords: biodiversity; Neotropical; Zingerberales; checklist; dead log beetles.

Resumen

La diversidad de la familia Pythidae (Coleoptera) se resume para Perú. Se registra un género (*Ischyomius* Chevrolat) y dos especies. Los comentarios se dan sobre la clasificación y distribución de la familia, así como la biología conocida y la historia natural, esto último basado principalmente en etapas larvarias. Basándose en datos de etiquetas de especímenes previamente examinados y de material recién recolectado, las especies de *Ischyomius* parecen estar estrechamente asociadas con varias familias de plantas monocotiledóneas dentro del orden Zingerberales. *Ischyomius singularis* Chevrolat se registra para Huánuco y Lima, mientras *I. bicolor* Champion es conocido para Loreto y Madre de Dios; se dan localidades de recolección específicas.

Palabras clave: biodiversidad; Neotropico; Zingerberales; listado de especies; escarabajos de troncos muertos.

Citación:

Pollock D.A. 2018. Beetles (Coleoptera) of Peru: A Survey of the Families. Pythidae Solier, 1834. Revista peruana de biología 25(3): 321 - 324 (Agosto 2018). doi: <http://dx.doi.org/10.15381/rpb.v25i3.15215>

Presentado: 09/04/2018

Aceptado: 20/08/2018

Publicado online: 25/09/2018

Información sobre los autores:

The author states that there are no conflicts of interest.

Journal home page: <http://revistasinvestigacion.unmsm.edu.pe/index.php/rpb/index>

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Introduction

The Peruvian fauna of Pythidae is reviewed as part of the Caroline Chaboo 'Beetles of Peru project' (2010–present). The relatively few members of this family were widely dispersed among several other families of Tenebrionidea (e.g. Melandryidae, Salpingidae) until relatively recently (Pollock & Lawrence 1995). The family has temperate northern (5 genera, 14 species) and southern (1 genus, 2 species) hemisphere constituent taxa, with one genus, *Ischyomius* Chevrolat, represented in the Neotropics by 8 species (Pollock 1998, 2007, 2009). Contrary to the major differences in the adults of the various genera of Pythidae, the larval stages show more structural similarities to one another, particularly in the structure of the urogomphal plate (Pollock 2010). Though the genus was revised by Pollock (1998), additional undescribed species continue to accumulate and it seems very likely that additional species of *Ischyomius* will be added to the Peruvian fauna of Pythidae. Relevant literature, habitats, biology (including association with Zingiberales), and collecting methods are summarized to aid future field collections.

Recognition.— This small family of 7 genera and ~25 species worldwide (Pollock 2010) is difficult to characterize, as there is considerable structural diversity among the constituent genera. Despite the major structural differences between pythid genera, species within genera show a high degree of similarity. All known species of *Ischyomius* exhibit the same general facies: body elongate (length 5.9–13.4 mm; ratio of length: maximum width = 3.5–4.3), slightly flattened to relatively convex dorsally; eyes large, protruding; pronotum wide, at least indistinctly explanate laterally; elytra widest anteriorly, distinctly tapered posteriorly, in most species with apices produced into spines (Pollock 1998, Fig. 1; Pollock 2010, Fig. 11.23.1.D). The larval stage of *Ischyomius* is known (author's collection and material borrowed from Jim McClarin) but is yet undescribed; it exhibits the following general features: body elongate, parallel-sided, only slightly flattened dorsoventrally; head with 5 stemmata (3 anterior and 2 posterior); urogomphal plate with dorsal tubercles and multiple inner teeth on urogomphi; sternite 9 with transverse row of asperities. These larval characters are very similar to those exhibited by *Pytho* larvae (Pollock 1991), offering even more evidence that *Ischyomius* properly belongs in Pythidae.

The two species currently known from Peru are keyed in Pollock (1998) and differ greatly from one another; *I. bicolor* differs from all other described species of *Ischyomius* in that it possesses short, subserrated antennomeres, very wide pronotum, and rounded (not spiniform) elytral apices. Also, almost all specimens examined exhibit a dark-colored pronotum, contrasting against the relatively more lightly-colored elytra (hence, the specific epithet "*bicolor*").

Material and methods

Biology, Habitat, and Collecting Methods.— The biology of this family is relatively well known (yet still with some significant gaps), compared to some other families of Tenebrionidea. Larvae of all species of *Pytho* Latreille and the monotypic *Priognathus monilicornis* (Randall) are associated with dead and rotting conifer trees (Pollock 1991, 2010; Young 1991). Larvae of *Anaplopus tuberculatus* Blackburn and *Sphalma quadricollis* Horn were collected under dead tree bark (Pollock and Lawrence

1995; Young 1976). There is some limited information published on the adults of these taxa, but since larvae are usually in specific habitats, the most meaningful natural history information for Pythidae is derived from the larval stages.

Pollock (1998) summarized what little was known about the biology and habits of species of *Ischyomius*. Based on label data of examined specimens, adults of two species, *I. chevrolati* Champion and *I. singularis* Chevrolat, seem to be associated with wilted foliage of several species of Musaceae: *Musa sapientum* L. (banana), *M. paradisiaca* L. (plantain), and *M. textilis* Née. Adult specimens of *I. nevermanni* Pollock were taken from foliage of *Cryosophila* (= *Acanthorrhiza*) *warscewiczii* (H. Wendt.) Bartlett and *Iriarteia* sp. (Palmae). All type specimens of *I. escalonai* Pollock were collected in association with withered leaves of "Bird of Paradise" plants (*Strelitzia* sp., Strelitzaceae). As stated by Pollock (2009), *Strelitzia* was introduced to the Neotropics from its native South Africa; Strelitzaceae and Musaceae are related families within the monocot angiosperm Order Zingiberales (Kress & Hawn 1997). Samples of two species of *Ischyomius* larvae and adults received recently from J. McClarin were collected in/on banana and *Heliconia* (Heliconiaceae), the latter also in the Zingiberales. In summary, the known information regarding larval hosts of *Ischyomius* points to a fairly restricted group of plant taxa within the Monocots, specifically in Zingiberales and possibly Palmae.

Adult pythids are relatively rarely collected, except when found in the same habitats as the larvae. For example, Pollock (1991) collected many adult *Pytho* from within pupal cells under the same dead bark where larvae were previously feeding. For *Ischyomius*, since larvae seem to be restricted to particular groups of plants, adults are most likely to be encountered and collected in forest areas with these same plants. Malaise and flight-intercept traps are likely to collect flying specimens, but it seems that the best way to collect adults (based on label data) is beating dead vegetation of trees of Musaceae and Palmae, or hand-collecting through examination of vegetation in which larvae occur. For example, recent samples sent to me by Jim McClarin represented both larvae and adults. A description of these newly acquired larval specimens is currently underway (Pollock, in prep.).

Results

The following checklist is derived from a revision of the genus *Ischyomius* Chevrolat by Pollock (1998); the geographic distributions in Peru listed below were derived from 14 specimens deposited in the following collections:

- CAS – California Academy of Sciences, San Francisco, CA, USA (David Kavanaugh).
- CMNH – Carnegie Museum of Natural History, Pittsburgh, PA, USA (Robert Davidson).
- FMNH – Field Museum of Natural History, Chicago, IL, USA (Alfred Newton).
- MNHN – Muséum National d'Histoire Naturelle, Paris, France (Nicole Berti).
- NMNH – National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA (G. House).

Checklist of Pythidae of Peru

PYTHIDAE SOLIER, 1834
ISCHYOMIUS CHEVROLAT, 1878

Ischyomius singularis Chevrolat, 1878

(Bolivia, Colombia, Ecuador, Peru)

Ischyomius bicolor Champion, 1916

(Brazil, Colombia, Ecuador, Peru)

Ischyomius singularis

Huánuco: Yurac, 67 mi E. of Tingo Maria, 11.xii.1954, E. I. Schlinger & E. S. Ross (CAS, 1).

Lima: Callanga, no other data (FMNH, 8), (NMNH, 2).

Illustration of adult in Pollock (1998), Fig. 1A

Ischyomius bicolor

Loreto: Iquitos, M. de Mathan (MNHN, 2).

Madre de Dios: Tambopata Wildlife Res, 30 km SW Pto. Maldonado, 12°50'S, 69°20'W; 290 m, 9.xi.1982, J. J. Anderson (CMNH, 1).

Illustration of adult in Pollock (1998), Fig. 1E

Acknowledgements

I thank Jim McClarin for sending larval and adult *Ischyomius* spp. collected in Ecuador, and the curators of the many collections from which specimens were borrowed during taxonomic studies on *Ischyomius*.

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